AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (previously presented): A fuel cell comprising:

a fuel cell main unit which includes a fuel electrode and an oxidant electrode, and generates electric power based on supplying of organic liquid fuel to said fuel electrode and oxidant to said oxidant electrode; and

a vibration generating unit which generates vibration to vibrate said fuel electrode such that carbon dioxide generated at said fuel electrode is removed,

wherein said vibration generating unit is driven by a part of an output of said fuel cell main unit.

Claim 2. (previously presented): The fuel cell according to claim 1, further comprising:

a control unit, a first voltmeter connected to a load, a second voltmeter connected to said fuel cell main unit, and an ammeter which measures the current from said fuel cell main unit to said load, and

wherein said control unit controls an operation of said vibration generating unit based on outputs supplied by said first voltmeter, second voltmeter, and ammeter.

Claim 3. (currently amended): The fuel cell according to claim 1 , further comprising:

a power applying unit which converts a part of a direct current outputted by said fuel cell main unit into alternating electric power and outputs said alternating electric power to said vibration generating unit, wherein said vibration generating unit is driven by said alternating electric power.

Claim 4: (canceled).

Claim 5. (previously presented): The fuel cell according to claim 1, wherein said vibration generating unit includes a piezoelectric vibrator which generates said vibration.

Claim 6. (previously presented): The fuel cell according to claim 1, wherein said vibration generating unit is arranged on said fuel cell main unit.

Claim 7. (currently amended): The fuel cell according to claim 1, further comprising:

a holding substrate on which holds ~~said fuel cell main unit and~~ said vibration generating unit,

wherein said fuel cell main unit further comprises a casing which surrounds said fuel electrode and said oxidant electrode;

wherein said casing of said fuel cell main unit is held on said holding substrate; and

wherein said holding substrate transmits said vibration to said fuel cell main unit.

Claim 8. (previously presented): The fuel cell according to claim 1, wherein said fuel cell main unit includes a porous fuel electrode side current collector that is coated by hydrophilic coating material.

Claim 9. (previously presented): The fuel cell according to claim 1, wherein said fuel cell main unit includes a porous fuel electrode side current collector that is coated by hydrophobic coating material.

Claim 10. (currently amended): The fuel cell according to claim 1, wherein said fuel electrode includes:

a current collector, and

a fuel electrode catalyst layer of which one side is connected to said current collector and another side is connect to a polymer electrolyte membrane,

said current collector has at least one hole which penetrates said current collector,

wherein a diameter of said at least one hole at a side of said fuel electrode catalyst layer is smaller than a diameter of said at least one hole at an opposite side, and

wherein the diameter of said at least one hole gradually decreases as said at least one hole extends from said side of said fuel electrode catalyst layer to said opposite side.

Claim 11. (previously presented): A portable information device comprising:

a body; and

a fuel cell which is held on said body,

wherein said fuel cell comprising:

a fuel cell main unit which is arranged in said body, includes a fuel electrode and an oxidant electrode, and generates electric power based on supplying of organic liquid fuel to said fuel electrode and oxidant to said oxidant electrode, and

a vibration generating unit which is arranged in said body and generates vibration to vibrate said fuel electrode such that carbon dioxide generated at said fuel electrode is removed; and

wherein said vibration generating unit is driven by a part of an output of said fuel cell main unit.

Claim 12. (previously presented): The portable information device according to claim 11, wherein said fuel cell further comprises:

a control unit, a first voltmeter connected to a load, a second voltmeter connected to said fuel cell main unit, and an ammeter which measures the current from said fuel cell main unit to said load, and

wherein said control unit controls an operation of said vibration generating unit based on outputs supplied by said first voltmeter, second voltmeter, and ammeter.

Claim 13. (currently amended): The portable information device according to claim 11 , wherein said fuel cell further comprises:

a power applying unit which converts a part of a direct current outputted by said fuel cell main unit into alternating electric power and outputs said alternating electric power to said vibration generating unit, wherein said vibration generating unit is driven by said alternating electric power.

Claim 14: (canceled).

Claim 15. (previously presented): The portable information device according to claim 11, wherein said vibration generating unit includes a piezoelectric vibrator which generates said vibration.

Claim 16. (previously presented): The portable information device according to claim 11, wherein said vibration generating unit is arranged on said fuel cell main unit.

Claim 17. (currently amended): The portable information device according to claim 11, wherein said fuel cell further comprises:

a holding substrate on which holds ~~said fuel cell main unit and~~ said vibration generating unit,

wherein said fuel cell main unit further comprises a casing which surrounds said fuel electrode and said oxidant electrode;

wherein said casing of said fuel cell main unit is held on said holding substrate; and

wherein said holding substrate transmits said vibration to said fuel cell main unit.

Claim 18. (previously presented): The portable information device according to claim 11, wherein said fuel cell main unit includes a porous fuel electrode side current collector that is coated by hydrophilic coating material.

Claim 19. (previously presented): The portable information device according to claim 11, wherein said fuel cell main unit includes a porous fuel electrode side current collector that is coated by hydrophobic coating material.

Claim 20. (currently amended): The portable information device according to claim 11, wherein said fuel electrode includes:

a current collector, and

a fuel electrode catalyst layer of which one side is connected to said current collector and another side is connect to a polymer electrolyte membrane,

said current collector has at least one hole which penetrates said current collector,

wherein a diameter of said at least one hole at a side of said fuel electrode catalyst layer is smaller than a diameter of said at least one hole at an opposite side, and

wherein the diameter of said at least one hole gradually decreases as said at least one hole extends from said side of said fuel electrode catalyst layer to said opposite side.

Claim 21. (previously presented): The portable information device according to claim 11, wherein said body includes:

an outer body,

an inner body which is contained in said outer body, and

a vibration damping material which connects said outer body and said inner body,

said fuel cell is held on said inner body.

Claim 22. (previously presented): The portable information device according to claim 21, further comprising:

an information notifying unit which is arranged on said inner body, transmits said vibration to said outer body and notifies information to a user by vibrating said outer body based on said vibration.

Claim 23. (currently amended): The portable information device according to claim 11, wherein said vibration generating unit is combined with an ~~a~~ information notifying unit which transmits said vibration to said body and notifies information to a user by vibrating said body based on said vibration.

Claim 24. (previously presented): The portable information device according to claim 21 , wherein said vibration damping material includes butyl rubber.

Claim 25. (previously presented): A cellular phone comprising:

a body; and

a fuel cell which is held on said body,

wherein said fuel cell comprising:

a fuel cell main unit which is arranged in said body, includes a fuel electrode and an oxidant electrode, and generates electric power based on supplying of organic liquid fuel to said fuel electrode and oxidant to said oxidant electrode, and

a vibration generating unit which is arranged in said body and generates vibration to vibrate said fuel electrode such that carbon dioxide generated at said fuel electrode is removed,

said vibration generating unit is combined with a information notifying unit which transmits said vibration to said body and notifies information to a user by vibrating said body based on said vibration;

wherein said vibration generating unit is driven by a part of an output of said fuel cell main unit.

Claim 26. (previously presented): An operation method of a fuel cell, comprising:

(a) generating electric power by supplying organic liquid fuel to a fuel electrode and oxidant to an oxidant electrode of said fuel cell; and

(b) vibrating said fuel electrode such that carbon dioxide generated at said fuel electrode is removed;

wherein said vibration is generated by using a part of output current of said fuel cell.

Claim 27. (original): The operation method of a fuel cell according to claim 26, wherein said vibration is generated by a piezoelectric vibrator to which alternating current is supplied.

Claim 28. (canceled).

Claim 29. (previously presented): The operation method of a fuel cell according to claim 26 wherein said step (b) comprises:

(b1) vibrating said fuel electrode when an output of said fuel cell is lower than a threshold value.

Claim 30. (new): The portable information device according to claim 22 wherein said information notifying unit has a first state in which said information unit transmits said vibration to said outer body,

wherein said information unit has a second state in which said information unit does not transmit said vibration to said outer body, and

wherein said information unit can be in said second state when said vibration generating unit is generating said vibration.

Claim 31. (new): The portable information device according to claim 23 wherein said information notifying unit has a first state in which said information unit transmits said vibration to said body,

wherein said information unit has a second state in which said information unit does not transmit said vibration to said body, and

wherein said information unit can be in said second state when said vibration generating unit is generating said vibration.